

Assessing cognition, health behavior, reasoned action, and planned behavior on HIV/AIDS among openly homosexual men

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ABSTRACT

This study investigated the cognitive, health behavior, reasoned action and planned behavior assessment on HIV/AIDS among openly homosexual men. The respondents of the study were 50 openly homosexual students and professors. Snowball sampling was employed. This descriptive study utilized a standardized questionnaire divided into three parts formulated by Carey and Schroder, and Tlou wherein parametric measures and scoring stencils were employed. The study revealed that cognition of openly homosexual men about HIV/AIDS imposes the need for further awareness programs. Additionally, the health behavior of the respondents was shown to have poor to fair standings in terms of condom use, HIV test seeking, and monogamy data. Furthermore, reasoned action and planned behavior of the respondents' behavioral index denotes that they had above-average behavioral control in relation to their subjective norm. Similarly, the data suggested that their social circles greatly affects their perception of HIV and their adherence on the proper method in terms of HIV testing, condom use and faithfulness to their partners. Evaluations of cognitive assessment and the health behavior index, reasoned action, and planned behavior were not linked while the relationship between the three variables was found to be concomitant. Further findings revealed that there is no significant relationship between cognitive assessment and health behavioral index ($p=0.98$). There was also no significant relationship found between cognitive assessment and reasoned action and planned behavior (behaviour intention ($p=0.98$), attitude ($p=0.165$), subjective norms ($p=0.272$) and perceived behaviour control ($p=0.181$)). Health behaviour index on the other hand had a significant relationship with reasoned action and planned behaviour (behaviour intention ($p=0.00$), attitude ($p=0.00$), subjective norms ($p=0.00$) and perceived behaviour control ($p=0.00$)).

Keywords: cognitive assessment, health behavior, reasoned action, planned behavior

I. INTRODUCTION

As Human Immuno- Deficiency Virus (HIV)/ Acquired Immuno-Deficiency Syndrome (AIDS) is no longer a mere public health issue but a huge socio-economic and developmental concern, there is an immediate need to act with an utmost sense of urgency and seriousness. When a disease is a multifaceted malady which impacts and affects a society, remedies have to be multi-pronged. More so, when the disease defies treatment,

the cure has to precede and be synchronous with efforts to identify treatment. Such is the process to combat and control the menace of HIV/AIDS.

Since the discovery of HIV/AIDS in 1981 in the Philippines, the virus has killed more than 39 million people. HIV/AIDS is the worst epidemic humanity has ever faced. It has spread further faster and with more catastrophic long-term effects than any other disease. Its impact has become a devastating obstacle to

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development particularly with young people, who are the key to any successful fight to halt HIV/AIDS through awareness, prevention and education.

For decades, the Philippines had dodged the global AIDS crisis. However, things have now changed. There is currently a full-blown AIDS crisis in the country as seen in growing statistics. Tracing its beginnings in the Philippines, HIV infection in the country was first reported in 1984. Between January 1984 and July 2015, a total of 27,138 cases were reported, with the most dramatic increase in the number of cases happening in the past five years (Gonzales, 2016).

In the Philippines, the National Youth Commission (NYC) recently noted that most of the new cases reported in the country are usually those of young people, thus implying that the youth are mostly at risk of this disease which is steadily rising at epidemic proportions. Data from the Department of Health (DOH) reflects that 29 Filipinos get HIV every day. Of these 29 daily cases, 19 of these are between the ages of 15 to 25 years. In just one month in July 2015, there were 682 new cases registered, 17% more than the same month the previous year. Ninety-four percent of them were male and the average age was 27 (Dunuan, 2016). As of October 2016, a total of 38,114 cases were already on record.

In terms of modes of transmission, the most common was sexual contact (663 cases), and 86% of the sexually transmitted cases were among males who have sex with males. The other modes of transmission were needle sharing among drug users (17 cases) and mother-to-child transmission (two cases) as studies have shown (Dunuan, 2016).

It is noted that Cebu City is ranked number one in terms of prevalence of Human Immunodeficiency Virus (HIV) among all cities in the country, as stated by DOH-7 Assistant Director Dr. Lakshmi Legaspi. According to him, based on the most recent data, Cebu City reported an HIV prevalence rate of 7.7%, ahead of Manila and Quezon City which logged 6.7% and 6.6%, respectively. The use of injectable drugs and needle-sharing have been tagged as the leading cause of HIV prevalence in Cebu City, followed by males who engage in sex with males, then by female entertainment or sex workers. In Central Visayas, Cebu leads the provinces with 67 persons confirmed to be living with AIDS, and 1,872 others who have tested positive for HIV but have yet to show or feel symptoms. Since 1984, at least 62 people from Central Visayas have died as a result of HIV/AIDS. Health officials have estimated that 16 Filipinos are potentially infected with HIV per day. It is most common among males aged between 15 and 40 years old (Destacamento, 2015).

The current research emphasizes the importance of the three variables in understanding HIV among openly homosexual men—namely: the cognitive aspect, health behavior, reasoned actioned, and planned behaviour. The cognitive aspect refers to each respondent's knowledge pertaining to HIV/AIDS prevention and transmission. Thus, this is concerned with cognition as contrasted with emotional and volitional processes among homosexual men. Health behavior denotes to the respondents' conduct in relation to the prevention and transmission of HIV/AIDS. It is a function of compatible intentions and perceptions of behavioral control in that the latter is expected to moderate the effect of intention on behavior, such that a favourable intention produces the behavior only when perceived behavioral control is strong. Reasoned action and planned behavior talks about how a person's conduct is determined by his/her intention to perform the said behaviour(s) and that this intention is, in turn, a function of his attitude toward the behavior and his subjective norm in relation to HIV/AIDS prevention and transmission. Simply put, it is an indication of an individual's readiness to perform a given behavior. It is assumed to be an immediate antecedent of behavior. It is based on the person's attitude toward the behavior, subjective norm, and perceived behavioral control, with each predictor weighted for its importance in relation to the behavior and population of interest.

The researchers would like to emphasize that these variables may be interrelated but somehow neglected in some cases. For example, a person might be knowledgeable enough on HIV/AIDS prevention and transmission but does not behave according to his nature of understanding, or a person might be limited in his knowledge but cautious enough to avoid risky behavior. The theory of planned behavior in turn specifies the nature of relationships between beliefs and attitudes. According to these models, people's evaluations of, or attitudes toward behavior are determined by their accessible beliefs about the behavior, where a belief is defined as the subjective probability that the behavior will produce a certain outcome. Specifically, the evaluation of each outcome contributes to the attitude in direct proportion to the person's subjective possibility that the behavior produces the outcome in question.

According to the theory of reasoned action, if people evaluate the suggested behavior as positive (attitude), and if they think their significant others want them to perform the behavior (subjective norm), this results in a higher intention (motivations) and they are more likely to perform the said behavior. A high correlation of attitudes and subjective norms to behavioral intention, and subsequently to behavior, has been confirmed.

The researchers are very much concerned about the increasing statistics on HIV infection and AIDS. A question can be posed as to why there is a growing population of HIV infected individuals. Does the problem lie in the information dissemination? Or is it due to lack of information that preventive measures failed to realize? Something has to be done in response to the growing statistics of HIV/AIDS cases in the country. Therefore, the current study aims to gain a better understanding of the disease and provide substantial information that may be used to prevent a particularly vulnerable population—that is, openly homosexual males—from getting infected.

Furthermore, this research aims to: (a) help in the dissemination of public awareness especially the youth; and (b) develop positive behavior geared towards the prevention of HIV/AIDS. Despite ardent efforts to proliferate awareness of this disease being made by governmental and non-governmental agencies, misconceptions among the public continue to outpace efforts to educate people regarding the disease.

As a general rule, the more favourable the attitude toward behavior and subjective norm, and the greater the perceived behavioral control, the stronger the person's intention to perform the behavior in question should be. Finally, given a sufficient degree of actual control over the behavior, people are expected to carry out their intentions when the opportunity arises.

II. THEORETICAL FRAMEWORK

The study is anchored on the theory of reasoned action (TRA) and the theory of planned behavior (TpB) by Ajzen and Fishbein (1980). TRA was first introduced in 1967 by Fishbein in an effort to understand the relationship between attitude and behavior. It attempts to explain the relationship between beliefs, attitudes, intentions and behavior. According to the theory of reasoned action, the most accurate determinant of behavior is behavioral intention. The direct determinants of people's behavioral intentions are their attitudes towards performing the behavior and the subjective norms associated with the behavior. Attitude is determined by a person's beliefs about the outcomes or attributes of performing a specific behavior (that is, behavioral beliefs), weighted by evaluations of those outcomes or attributes. The subjective norm of a person is determined by whether important referents (that is, people who are important to the person) approve or disapprove of the performance of a behavior (that is, normative beliefs), weighted by the person's motivation to comply with those referents (Ajzen & Fishbein, 1980; Montano & Kasprzyk, 2002). According to Montano and Kasprzyk (2002), the theory of reasoned action is

successful in explaining behavior when volitional control is high. In conditions where volitional control is low, the theory of planned behavior (Ajzen, 1991) is more appropriate to explaining behavior (Tlou, 2009).

Later developments in the field led to the conclusion that behavior appeared not to be 100 % voluntary and under control. This perspective resulted in the addition of "perceived behavioral control" as a new concept. With this addition the theory evolved into what was called the theory of planned behavior (TpB).

TpB, on the other hand, holds that only specific attitudes toward the behavior in question can be expected to predict that behavior. In addition to measuring attitudes toward the behavior, we also need to measure people's subjective norms – their beliefs about how people they care about will view the behavior in question. To predict someone's intentions, knowing these beliefs can be as important as knowing the person's attitudes. Finally, it is also acknowledged that perceived behavioral control influences intentions. Perceived behavioral control refers to people's perceptions of their ability to perform a given behavior. These predictors lead to intention. A general rule, the more favorable the attitude and the subjective norm, and the greater the perceived control the stronger should the person's intention to perform the behavior in question (Ajzen, 1991).

According to the theory of planned behavior, perceived behavioral control is determined by control beliefs concerning the presence or absence of facilitators and barriers to behavioral performance, weighted by the perceived power or input of each factor to facilitate or inhibit behavior. Thus, a person who holds strong control beliefs about factors that facilitate behavior will have high perceived control, which translates into an increased intention to perform the behavior (Ajzen, 1991; Montano & Kasprzyk, 2002).

The theory of reasoned action and the theory of planned behavior were chosen for this study as they are the theories most cited in HIV/AIDS research, and have been found to be better predictors of HIV/AIDS health behavior than other models (Fishbein, 1993; Terry, Gallois, & McCamish, 1993; Warwick, Terry, & Gallois, 1993). The research reviewed was conducted mainly in North America and Europe, hence the need to test the relevance of the theories to the Asian (Cebuanos) context.

Health behavior – AIDS preventive behavior in the context of this study – does not occur spontaneously (Terry, Gallois, & McCamish, 1993). It is the result of a decision-making process that involves an individual processing the information available to him/her, and



then deciding on a course of action after reflecting on the consequences of performing the behavior and his/her beliefs about what other people expect him/her to do. The Cebuano population especially homosexual men who happen to be the target population of the study have been exposed to sufficient available information on HIV/AIDS and how it can be prevented. However it remains a question as to whether they have availed of these available information to fully equip them with the knowledge on prevention of HIV/AIDS. There is a need to move towards behavior change. As attitudes and beliefs have been shown to be significant in people's choice of action, the theories of reasoned action and planned behavior are relevant to behavior change. The model to be applied in this study is based on the assumption that if people's attitudes towards specific AIDS-preventive behaviors are shaped in particular directions and their beliefs about the expectations of their significant others are reinforced, it will then be possible to change behavior (Tlou, 2009).

The current study therefore aims to determine the cognitive level of the respondents with regards to HIV/AIDS, after which their health behavior index will also be determined, followed by reasoned action and planned behavior.

III. DESIGN AND METHODOLOGY

The study utilized a quantitative descriptive-correlational design as it tried to determine respondents' cognition and behavior with regards to HIV/AIDS, and it also assessed whether a significant relationship was present between the two variables.

The study was conducted in a large private university in Cebu. Through the use of snow ball sampling, 50 homosexual men who are employees and college students were selected to be the respondents of the study. Inclusion criteria to qualify as a respondent included the following: (a) must be of legal age regardless of HIV status; (b) must be a bona fide employee or college student of the university, regardless of whether regular or irregular; and (c) must be gay (male) based on their personal gender identity. Anyone who did not meet the said inclusion criteria was not part of the final sample. Before data gathering was commenced, ethical approval was sought.

The study used the HIV Knowledge Questionnaire (HIV-KQ-18), an 18-item questionnaire by Carey and Schroder (2002) which is answerable by true or false. The next instrument was the AIDS Health Behavior Questionnaire and TRA/TPB questionnaire by Ajzen and Fishbein (1980) to assess the health behaviour index and the reasoned action and planned behavior.

The health behaviour index is answerable by a true or

false response while the reasoned action and planned behaviour is a 60-item questionnaire. Items 1 – 6 pertain to behavioural intention (a 7-point unipolar disagree to agree scale).

Items 7 – 24 measure attitude and are divided into: items 7 – 12 measuring direct attitude (with adjectives good – bad, unwise to wise), items 13 – 18 for behavioural beliefs (7-point unipolar disagree – agree) and items 19 - 24 for outcomes evaluation (a 7-point bipolar undesirable – desirable scale).

Items 25 – 42 measure subjective norms as a whole and comprise the following: items 25 – 30 for direct subjective norms (7-point unipolar disagree – agree), items 31 – 36 for normative belief (7-point unipolar disagree – agree) and items 37 – 42 for motivation to comply with referents (7-point bipolar scale by not at all – very much).

Items 43 – 60 on the other hand measure perceived behavioural control with the following item distribution: items 43 – 48 for direct perceived behavioural control (7-point unipolar disagree – agree), items 49 – 54 for control belief (7-point unipolar unlikely – likely) and items 55 – 60 for perceived power to influence (7-point bipolar scale not at all – very much).

To score the variables, mean score was determined from the scale of 1 – 7 for behavioural intention, (condom use intention, HIV testing intention and monogamy intention), attitude, behavioural belief, subjective norms, normative belief, perceived behavioural control, and control belief.

Outcome evaluation, motivation to comply to referents, and perceived power to influence are scored in a way that the 1 to 7 unipolar direction were scored as -3 to +3. This score is then multiplied to the score on outcome evaluation, motivation to comply to referents, and perceived power to influence in order to get the indirect attitude score, indirect subjective norms and indirect perceived behavioral control scores respectively. These scores are then added to direct attitude score, direct subjective norms and direct perceived behavioral control scores respectively to get the overall attitude score, subjective norms and perceived behavioural control scores.

To derive comprehensive, valid and reliable results, frequency and percentage were used to describe the cognition assessment level while mean score was used to test if the variables on health behavior index, and reasoned action and planned behavioral assessment to measure of the central tendency either of a probability distribution.

Pearson r correlation was used to test whether a significant relationship exists between the variables on



cognitive assessment, behavioural health index and reasoned action and planned behavioral assessment.

IV. RESULTS AND DISCUSSION

The following are the findings of the study.

Table 1
Cognitive Assessment of Openly Homosexual Men about HIV/AIDS

Cognitive Assessment	f	%
Poor	1	2.00
Fair	16	32.00
Good	21	42.00
Very Good	12	24.00

N=50

The results of the table show that openly homosexual students and professors of the university need to be more informed about HIV/AIDS prevention, transmission and management. Although many of the respondents ($f=21$, 42%) scored "good" on their knowledge about HIV, only 24% had "very good" ratings. Therefore, there should be more efforts to raise knowledge about HIV especially towards vulnerable populations. The objective of total wellness implemented by the government, non-government organizations and this research is the holistic spread of information among the homosexual population as well as the general public. Moreover, even if the majority of the respondents have the basic understanding of HIV/AIDS there are some components of the questionnaires that need to be fully understood and should get an excellent response. Respondents who answered poorly are clearly at risk of acquiring the disease if not properly informed and well-versed regarding HIV/AIDS.

The findings of the study also somehow support that of a local study conducted in the Philippines by Galindo (2014), which revealed a high level of knowledge on HIV/AIDS and a moderately positive attitude towards all the aspects involved in dealing with these health issues. It was found that there is a significant moderate relationship between knowledge and attitude on HIV/AIDS.

In a study by Gupta, Anjum, Bhardwaj, Srivastav and Zaidi (2013), it was found that for majority of students, their main source of information about HIV/AIDS was the television. When female students were asked what they knew about modes of transmission of HIV/AIDS, 95.1% mentioned unprotected sex. A total of 75.8% students said that it was transmitted from mother to child. It was observed that the knowledge of the school

students was quite satisfactory for most of the variables like modes of transmission, including mother-to-child transmission of the disease. However, schools should

come forward to design awareness campaigns for the benefit of the students.

Consequently, in the study of Othman (2014), all the students had heard about AIDS where around two thirds of students had heard from mass media like TV/Radio. Around 45% of students had good knowledge scores about HIV/AIDS, and 43.7% had acceptable knowledge scores, while only 11.2% had poor knowledge scores. The overall rate of knowledge (acceptable and good) about HIV/AIDS among high school students was high. Socio-demographic characteristics of students appeared to have an effect on their knowledge about HIV/AIDS.

In another study conducted by Haroun et al. (2016), the overall average knowledge score of HIV/AIDS was 61%. Non-Emirati and postgraduates demonstrated higher levels of knowledge compared to Emirati and undergraduate students respectively. There was no significant difference found between genders, only within marital status. Eighty-five % of students expressed negative attitudes towards people living with HIV, with Emirati and single students significantly holding more negative attitudes compared to non-Emiratis and those that are married respectively. The findings provide strong evidence that there is a need to advocate for appropriate National HIV/AIDS awareness raising campaigns in universities to reduce the gaps in knowledge and decrease stigmatizing attitudes towards people living with HIV/AIDS.

Table 2
Health Behavior Index of Openly Homosexual Men about HIV/AIDS

Health Behavior Index	f	%
Lacks Adherence to Health Behaviors	8	16.00
Poor Adherence to Health Behaviors	17	34.00
Fair Adherence to Health Behaviors	17	34.00
High Adherence to Health Behaviors	8	16.00

N=50

Health behavior was measured by how often respondents complied with HIV/AIDS prevention methods such as condom use, HIV test seeking, and practice of monogamy. Respondents adhered to health behavior either poorly or fairly ($f=17$, 34%). Interestingly, 16% were equally distributed between those who highly adhered to healthy practices and those lacked adherence to healthy behavior at all.

These behaviors being practiced by the respondents predispose them in acquiring the dreaded disease since the parameters mentioned above are vital in the prevention of acquiring the disease.

Table 3
Reasoned Action and Planned Behavior of Openly Homosexual Men-Behavioral Intention

Behavioral Intention	\bar{x}	Interpretation
1. I intend to go for a HIV test in the next	4.92	Slightly high

six months.		
2. I am definitely going for a HIV test in the next six months.	5.24	Slightly high
3. I expect myself to have only one sex partner for the next six months.	5.48	Moderately high
4. I intend to have only one sex partner for the next six months.	5.08	Slightly high
5. I want to use a condom every time I have sex for the next six months.	4.86	Slightly high
6. I expect myself to use a condom every time I have sex for the next six months.	4.90	Slightly high
Factor \bar{x}	5.08	Slightly high

N=50

Legend: 1.00 – 1.85 – low, 1.86 – 2.70 – moderately low, 2.71 – 3.56 – slightly low, 3.57 – 4.42 neutral, 4.43 – 5.28 – slightly high, 5.29 – 6.14 – moderately high, 6.15 – 7.00 – high.

Results reveal that the behavioral intention of the respondents is mostly slightly high where only one aspect of the component of behavioral intent is moderately high. Overall behavioral intention is slightly high. A slightly high behavioral intention would imply that respondents are considering going for an HIV test, have an intention to be monogamous, and are willing to use a condom during a sexual contact. These findings would however, signify that respondents are still at risk of engaging in risky behavior considering that their intention to push through with these behaviors is not high enough. Perhaps this speaks about a lack of information about the importance of testing for HIV, being monogamous and the use of condoms in preventing HIV/AIDS.

A study by Guerrero-Lillo et al. (2007) revealed that about 44.2% of students in their sample had been sexually active in their life. Nearly all were heterosexual. About two-thirds did not use condoms for sexual intercourse, but about half reported using a condom at the last episode of sexual intercourse. From this group, 61.3% reported having had unsafe sex after alcohol or drug misuse. About 1 in 40 described a previous STI. Concerning testing for HIV infection, 73.9% stated that they were willing to take an HIV-ELISA test, but only 0.6% were actually able to do so once. However, 94.8% considered it important to try to prevent becoming infected with the HIV/AIDS virus.

Ramos-Jimenez and Lee (2000) found that a great majority of Filipino urban men particularly in the cities of Quezon, Cebu, and Davao were relatively not at risk of acquiring and transmitting HIV. Men who practiced safer sex behavior were greater in number than those with unsafe sex behavior. Unsafe sex was measured by three indicators intercourse with: (a) sex workers or strangers; (b) foregoing partners without the use of condoms; and (c) multiple partners. Use of injecting drugs, one transmission route for HIV, was also utilized as an indicator of risky behavior. Among the three age categories of men, the youngest age group (15-24) exhibited substantial risky sexual behavior which may

have potentials in spreading the virus to the general population. Proportionally, more men in this category had multiple partners and had paid for sex. Although most of them thought that they had little or no chance of acquiring HIV, a substantial proportion among those who had several partners and who had paid for sex thought that they had moderate to greater probability of acquiring HIV.

The table 4 reveals that in terms of attitudes, respondents mostly have a slightly positive attitude on all items except on testing for HIV within the next six months, wherein average attitude was found to be moderately positive. HIV testing, condom use and monogamy also registered positive and good outcome evaluation as reflected in the table. Overall all attitude of respondents is positive. A positive attitude is an indication that respondents have awareness about the importance of HIV testing, use of condoms and monogamy in the prevention of HIV/AIDS. However, the findings only entail slightly positive, which means that there is much room left to cultivate positive attitudes towards HIV testing, condom use and monogamy.

Findings of the study contrast those by Lamkang, Joshi and Singh (2016) where it was found out that attitudes towards HIV/AIDS were generally negative. More than half of the respondents considered AIDS as punishment of God for bad behavior.

The table 5 reveals that majority of the components on subjective norms are slightly high. Worth noting however is a neutral rating on the item, "My siblings think I should go for an HIV test". This finding can be explained due to the fact the submitting oneself for HIV testing is highly personal and private, though one's siblings may recommend it. Moreover, some components scored moderately high which are good indicators of subjective norms and normative belief. The findings would imply that siblings, friends and religious leaders, parents, partners and colleagues can influence one's choice of actions or behavior. This is because people's actions can be influenced by those around them, especially those they consider influential and/or important to them. When an action is supported by such people, they become motivated to perform that particular action or behaviour. This is exemplified in the findings of the study which shows that respondents have a good motivation to comply with health behaviors.

Semungus, Tafese and Semella (2017) found that among students who had done sexual intercourse, 36%

Table 4
Reasoned Action and Planned Behavior of Openly Homosexual Men-Attitude

ATTITUDES	\bar{x}	Interpretation
A. Direct measures of attitude		
7. My seeking a HIV test in the next six months is	5.40	Moderately positive

8. My seeking a HIV test in the next six months is	5.32	Moderately positive	26. My partner/spouse thinks I should go for a HIV test.	4.38	Slightly high
9. My using a condom regularly during sexual intercourse in the next six months is	5.22	Slightly positive	27. My friends think I should use a condom every time I have sex.	4.76	Slightly high
10. My using a condom regularly during sexual intercourse in the next six months is	4.60	Slightly positive	28. My colleagues think it is a good idea that I should use a condom every time I have sex.	4.68	Slightly high
11. My having one sex partner in the next six months is	5.28	Slightly positive	29. My religious leader (e.g. priest) thinks I should have only one sex partner.	5.14	Slightly high
12. My having one sex partner in the next six months is	4.58	Slightly positive	30. My extended family think I should have only one sex partner.	5.52	Moderately high
Factor \bar{x}	5.07	Slightly positive	Factor \bar{x}	4.73	Slightly high
B. Indirect measure of attitudes/Behavioral belief			B. Normative Belief		
13. My going for a HIV test in the next six months shows that I care about my health and my partner's health.	5.32	Moderately positive	31. My partner would approve of me staying faithful to her/him.	5.40	Moderately high
14. My going for a HIV test in the next six months means I am suspicious of my partner.	5.10	Slightly positive	32. I am under pressure from my parents (mother and/or father) to stay faithful to my only partner.	4.62	Slightly high
15. My having only one sex partner in the next six months is emotionally fulfilling to me and my partner and makes us both happy.	4.80	Slightly positive	33. My colleagues would approve of me getting to know my HIV status.	5.26	Slightly high
16. My having only one sex partner in the next six months means I am at low risk of getting infected with HIV.	4.66	Slightly positive	34. My extended family (cousins, uncles etc.) would be pleased if I knew my HIV status.	5.38	Moderately high
17. My using a condom during sexual intercourse in the next six months means I do not have to worry about unwanted pregnancy and sexually transmitted infections.	4.50	Slightly positive	35. My friends would be disappointed in me if I did not use condoms.	4.70	Slightly high
18. My using a condom regularly in the next six months does not guarantee my safety as condoms can have defects.	4.50	Slightly positive	36. My colleagues expect me to use a condom every time I have sex with a casual partner.	5.04	Slightly high
Factor \bar{x}	4.81	Slightly positive	Factor \bar{x}	5.07	Slightly high
OVERALL ATTITUDE SCORE	71.36	Positive	OVERALL SUBJECTIVE NORM SCORE	71.36	Positive
C. Outcomes evaluation			C. Motivation to Comply with Referents		
19. For me, caring about my health is	1.86	Good outcome evaluation	37. My partner's approval of my faithfulness is important to me.	0.88	Good motivation to comply
20. For me, feeling suspicious about my partner is	1.32	Good outcome evaluation	38. Staying faithful to my only partner as parents expect me is important to me.	1.46	Good motivation to comply
21. For me and my partner, feeling emotionally fulfilled and happy is	1.34	Good outcome evaluation	39. When it comes to HIV testing, I want to do what my colleagues expect me to do.	1.02	Good motivation to comply
22. Knowing that I am at low risk of getting HIV infection is	1.50	Good outcome evaluation	40. When it comes to HIV testing, I am most keen to do what my extended family expect.	0.98	Good motivation to comply
23. Not having to worry about unwanted pregnancy or sexually transmitted infections is	-0.28	Poor outcome evaluation	41. Pleasing my friends by always using a condom matters a lot to me.	0.92	Good motivation to comply
24. The discomfort of worrying about the poor safety of condoms is	0.66	Good outcome evaluation	42. When it comes to using a condom with a casual partner, I do what my colleagues want me to do.	0.82	Good motivation to comply
Factor \bar{x}	1.91	Good outcome evaluation	Factor \bar{x}	6.08	Good motivation to comply

N=50

Legend:

Attitudes - 1.00 – 1.85 – poor, 1.86 – 2.70 – moderately poor, 2.71 – 3.56 – slightly poor, 3.57 – 4.42 neutral, 4.43 – 5.28 – slightly positive, 5.29 – 6.14 – moderately positive, 6.15 – 7.00 – positive.

Overall - -168 to +168(negative scores – poor outcomes evaluation, + scores – positive outcomes evaluation)

Outcomes - 15 to +15(negative scores – poor outcome evaluation, + scores – good outcome evaluation).

experienced risky practices under the influence of alcohol consumption and/ or peer pressure that may have exposed them to HIV infections. Majority of participants however were influenced by their parents to be faithful to their sexual partners.

Table 5
Reasoned Action and Planned Behavior of Openly Homosexual Men-Subjective Norms

SUBJECTIVE NORMS	\bar{x}	Interpretation
A. Direct Subjective Norms		
25. My siblings (brothers and/or sisters) think I should go for a HIV test.	3.88	Neutral

N=50

Legend: 1.00 – 1.85 – low, 1.86 – 2.70 – moderately low, 2.71 – 3.56 – slightly low, 3.57 – 4.42 neutral, 4.43 – 5.28 – slightly high, 5.29 – 6.14 – moderately high, 6.15 – 7.00 – high.

Overall - -168 to +168(negative scores – poor motivation to comply with the referents, + scores – positive motivation to comply with the referents)

Motivation to comply - 15 to +15 (negative scores – poor motivation to comply with the referents, + scores – positive motivation to comply with the referents).

Mirkuzie, Sisay, Moland and Åstrøm (2011) also revealed that across two groups, subjective norm explained a substantial amount of variance in intention, followed by attitudes. Women intended to test for HIV if they perceived social support and anticipated positive consequences following test performance. Type of counselling did not modify the link between intended and actual HIV testing.

Table 6
Reasoned Action and Planned Behavior of Openly Homosexual Men-Perceived Behavioral Control

PERCEIVED BEHAVIORAL CONTROL	\bar{x}	Interpretation
A. Direct Perceived Behavioral Control		

43. I am confident that I can refuse sex without a condom if I want to.	4.64	Slightly high
44. The decision to use a condom is beyond my control.	4.62	Slightly high
45. For me to stay faithful to my only partner would be easy.	5.11	Slightly high
46. Being faithful to my only partner is entirely up to me.	5.22	Slightly high
47. I have no doubt about my ability to go for HIV testing.	5.24	Slightly high
48. It is completely up to me if I want to get tested for HIV.	5.44	Moderately high
Factor \bar{x}	5.10	Slightly high
B. Control Belief		
49. Knowing my HIV status would make it possible for me to achieve a positive life style change.	5.34	Moderately high
50. The fear of being rejected by loved ones if I test positive for HIV will discourage me from getting myself tested.	4.10	Neutral
51. What I have heard about the risks of using condoms will make it difficult for me to use one.	4.60	Slightly high
52. I can still maintain high levels of intimacy with my partner while using condoms.	4.78	Slightly high
53. Only I can decide to stay faithful to my only sex partner.	4.84	Slightly high
54. I am able to resist the temptation of getting involved with more than one sex partner.	5.00	Slightly high
Factor \bar{x}	4.78	Slightly high
OVERALL PERCEIVED BEHAVIORAL CONTROL	69.10	Positive
C. Perceived Power to Influence		
55. The likelihood of making a positive life style change makes it easy for me to go for HIV testing.	1.76	Good power to influence
56. It will still be easy for me to seek HIV testing despite the possibility of being rejected if I test positive.	1.60	Good power to influence
57. It will be difficult for me to try using a condom because of the risks associated with it.	1.02	Good power to influence
58. It will be easy for me to mix condoms with pleasure.	1.28	Good power to influence
59. It will be easy for me to stay faithful to my partner if I choose to.	1.46	Good power to influence
60. Resisting the temptation of getting involved with more than one partner will be difficult for me to do	1.60	Good power to influence
Factor \bar{x}	1.45	Good power to influence

N=50.

Legend: 1.00 – 1.85 – low, 1.86 – 2.70 – moderately low, 2.71 – 3.56 – slightly low, 3.57 – 4.42 neutral, 4.43 – 5.28 – slightly high, 5.29 – 6.14 – moderately high, 6.15 – 7.00 – high.

Overall - -168 to +168(negative scores – poor perceived power to control, + scores – positive perceived power to control)

Power to influence - 15 to +15(negative scores – poor perceived power to control, + scores – positive perceived power to control)

As seen in the table, the findings reveal that perceived behavioural control is slightly high. The fear of being rejected by loved ones if tested to be positive with HIV was interestingly rated as neutral. This is most likely because of the social stigma attached to being

diagnosed with HIV/AIDS. However a majority of the interpretations are slightly high. These findings pose a positive outcome. Perceived behavioural control leaning towards slightly higher ratings implies better chances of

influencing other people. The person sees the benefits of high perceived behavioural control in oneself that he/she is most likely to empower or influence other to adopt such positive perception or behavior.

Table 7
The Relationship between cognitive assessment and the health behavior index of openly homosexual men about HIV/AIDS

cognitive assessment vs. the health behavior index	r value	p-value
	.004	.980

N=50

There was no significant relationship found between cognitive assessment and health behaviour index ($r=.004$, $p=0.98$). While it is presumed that having a better knowledge about something is associated with displaying better behaviour, the current study's findings showed the opposite. In other words, even if a person is knowledgeable about HIV/AIDS, it does not follow that he engages in practices/behaviors geared towards the prevention of HIV/AIDS.

It is important to note however that the findings of the study may be affected by the type and number of respondents and the group of respondents. The limited number of respondents and representing only one sector (homosexuals) may have contributed to the finding on cognitive assessment as not having a correlation with health behavior index.

Happell, Stanton, Hoey and Scott (2014) concluded that the lack of significant relationships between health behaviour knowledge and self-reported health behaviours is supported by health behaviour theory which proposes that knowledge alone is insufficient to elicit behaviour. In this regard, people with serious mental illness may not be dissimilar to the general population.

Furthermore, Mocan and Altindag (2014) found that controlling for health knowledge does not influence the impact of education on health behavior, supporting the productive efficiency hypothesis. Although cognition, as measured by test scores, appears to have an effect on the relationship between education and health behavior, this effect disappears once the models control for family fixed effects. Similarly, the impact of education on health behavior is the same between those with and without a learning disability, suggesting that cognition is not likely to be a significant factor in explaining the impact of education on health behavior.

Table 8.
The Relationship between cognitive assessment and the reasoned action and planned behavior of openly homosexual men about HIV/AIDS

Variables	r value	p-value
Behavioral Intent HIV Testing Intention	0.207	.149



Monogamy Intention	0.041	.780
Condom Use Intention	0.191	.184
Overall Behavior Intent	0.004	.980
Behavioral Attitude		
Direct measures of attitude	0.093	.522
Indirect measure of attitudes/Behavioral control	0.114	.431
Outcomes evaluation	0.169	.241
Overall Attitude	0.199	.165
Subjective Norms		
Direct Subjective Norms	0.197	.171
Normative Belief	0.270	.058
Motivation to Comply with Referents	0.033	.818
Overall Subjective Norms	0.159	.272
Perceived Behavioral Control		
Direct Perceived Behavioral Control	0.051	.724
Control Belief	0.253	.076
Perceived Power to Influence	0.187	.193
Overall Perceived Behavioral Control	0.192	.181

N=50

Based on Table 8, there is no significant relationship between cognitive assessment and all the components of reasoned action and planned behaviour. This implies that being knowledgeable about the transmission and prevention of HIV/AIDS does not automatically entail this knowledge being put into action. It may be that knowledge has no bearing on behavioral intent, attitude, subjective norms, and perceived behavioural control. This contradicts the presumption that when one is knowledgeable about something, he or she is expected to know what to do because of the knowledge.

According to Swenson et al. (2010), HIV knowledge, which is modifiable, is limited among at-risk African American adolescents and is an important contributor to sexual behavior and health. Their study raised a need for more comprehensive HIV/AIDS education, particularly with regard to condom use and the benefits of routine STI/HIV testing. Although knowledge might not be sufficiently protective in and of itself, having accurate information about HIV may benefit sexual health by impacting health-promoting attitudes necessary for successful engagement in healthcare-seeking behavior.

Qu, Zhang, Guo, and Sun (2010) also point out the interdependent relationships between certain constructs. They identified the factors of preventive knowledge, specialty knowledge, and attitude toward HIV/AIDS as having both direct and indirect effects on occupational attitude. Their findings pushed an initial effort to assess the relationship between student nurses' HIV/AIDS knowledge and their attitude toward the disease.

In another study conducted by Storbratrem (2014) in Cape Town, there were no significant relationships found between the components of knowledge, attitude, and practice in terms of sexual behavior. A relationship was found between knowledge and attitudes, but not with practice. Interestingly, number of sexual partners was found to be an important predictor of condom use. When KAP was turned around to PAK, no other

relationships were found in support of the model except for a relationship between attitudes and knowledge in Cape Town.

Borsum and Giermo (2004) also found that three dimensions on attitudes concerning patients with HIV/acquired immune deficiency syndrome were identified amongst the respondents. A weak correlation between knowledge and two of the attitudes might indicate that knowledge plays a role in this respect.

Table 9.
The Relationship between the health behavioral index and the reasoned action and planned behavior of openly homosexual men about HIV/AIDS

	r value	p-value
Behavioral Index		
Behavioral Intent		
HIV Testing Intention	0.656	.000**
Monogamy Intention	0.852	.000**
Condom Use Intention	0.821	.000**
Overall Behavior Intent	1.000	.000**
Subjective Norms		
Direct Subjective Norms	0.536	.000**
Normative Belief	0.655	.000**
Motivation to Comply with Referents	0.778	.000**
Overall subjective norms	0.740	.000**
Perceived Behavioral Control		
Direct Perceived Behavioral Control	0.638	.000**
Control Belief	0.454	.000**
Perceived Power to Influence	0.556	.000**
Overall Perceived Behavioral control	0.668	.000**

N=50

**Significant at 0.01

Table 9 shows that there is a significant relationship between the health behavior index and behaviour intent ($r=1.0$, $p=0.00$), subjective norms ($r=0.74$, $p=0.00$), and perceived behavioural control ($r=0.668$, $p=0.00$). This would imply that the behaviour that the respondents engage in terms of preventing the transmission of HIV/AIDS influences and is influenced to a certain extent by their behavioural intent, attitude, subjective norms and perceived behavioral control. When there is high adherence towards health behavior, this also results to a high behavioural intention, positive behavior attitude, and results to good outcomes. This also yields to a high direct subjective norms and normative belief and results to good motivation. Further, this would result to a high direct perceived behavioral control and control belief and results to a good power of influence. This positive correlation is brought about by the fact that when an individual is engaged in positive and good health behaviors, these actions are a product of a good and positive intention and attitude to maintain good health personally and his or her partner.

These findings are consistent with those of Albaraccin, Johnson, Fishbein and Muellerleile (2001), wherein it was mentioned that consistent with the theory of reasoned action's predictions: (a) condom use was related to intentions; (b) intentions were based on attitudes and subjective norms; and (c) attitudes were

associated with behavioral beliefs and norms were associated with normative beliefs. Consistent with the theory of planned behavior's predictions, perceived behavioral control was related to condom use intentions and condom use, but in contrast to the theory, it did not contribute significantly to condom use. The strength of these associations, however, was influenced by the consideration of past behavior.

However, in the study of Semungus, Tafese, and Semella (2017), students' behavior were found to be significantly affected by their gender, type of school, perceived behavioral control and attitude towards HIV. The study also revealed that a person's behavior is significantly affected only by their attitude.

V. CONCLUSION

The level of cognition of openly homosexual men about HIV/AIDS necessitates that better awareness programs are necessary to holistically send the message on how to protect themselves from the menace and stigma of HIV/AIDS. Even basic facts about the infection still need to be fully understood among the openly homosexual population.

Furthermore, the health behavior of the respondents illuminates to be poor to fair standings in terms of condom use, HIV test seeking, and monogamy data. This result implies that the respondents' behaviors need to be reformed since this predisposes them to acquire the disease. To add, reasoned action and planned behavior of openly homosexual men denotes that they have an above average behavioral control in relation to the subjective norm, which in turn implies to their social pressure as being exercised by important referents in favour or against their behavior in terms of HIV testing, condom use, and monogamy data.

Also, these data suggest that respondents' social circles greatly affects much of their perception of the disease and their adherence on the proper method in terms of HIV testing, condom use and faithfulness to their partners. Thus, this applies in this situation where a person can rationally weigh different alternative actions where there may be external factors influencing the final outcome of the behavior. The findings of the study can further be strengthened by future studies coverage a wider range of respondents.

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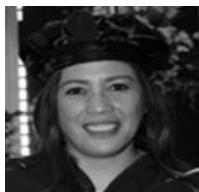
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